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CA

The isolation of penicillin. M. Herold, J. Koštíř, and J. Repa. *Chem. Listy* 40, 76-7(1946).—A penicillinlike antibiotic, Mykoin BF 510, was isolated and purified in 2 ways. (1) *By means of Ca salts.* The substrate, acidified with H_3PO_4 to pH 2.3, is extd. with AmOAc (the addn. of 1% sulfonated castor oil prevents emulsification), the ext. is washed with phosphate buffer (pH 7.3), and extd. repeatedly with AmOAc. The AmOAc ext. is treated with an aq. suspension of $CaCO_3$, the salts filtered, decompd. with H_3PO_4 at pH 2.3, and extd. with $CHCl_3$. The $CHCl_3$ ext. is washed with aq. $NaHCO_3$. (2) *By chromatography.* The $CHCl_3$ ext. of Mykoin is adsorbed on Al_2O_3 and eluted with alk. buffers or acidic ether.

M. Hudlický

CA

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ε-Thiocaprolactam. J. V. Koštíř and Z. Pádr (Charles Univ., Prague). *Chem. Listy* 40, 280-1(1946). — ε-Caprolactam (5 g.) was refluxed with P_2S_5 in 20 g. xylene 30 min., and the mixt. filtered hot; crystals of *ε-thiocaprolactam* (I) sepd.; an addnl. amt. was obtained by ligroine pptn. [total yield, 72%, m. 100-1° (from xylene)]; HCl salt (from I and HCl in $CHCl_3$-ether), unstable when exposed to air. The Na and K salts of I were prepd. from I and the metals in C_6H_6. The attempt to prep. selenocaprolactam failed.

M. Hudlický

[95]

eA

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New substituted derivatives of thiourea. J. V. Koštíř, L. Loukota, and Z. Vejdělek. *Chem. Listy* 40, 281-2 (1946).—Substituted thioureas were prepd. from $MeNCS$ (I), $PrNCS$ (II), and CH_2:$CHCH_2NCS$ (III) and the appropriate amines by mixing, and, if necessary, heating in EtOH or MeOH solns. $MeNHCSNEt_2$ (10 g.) from 15 g. I, 40 ml. Et_2NH in 20 ml. EtOH, m. 25-8° (from C_6H_6:PhMe, 1:1). $MeNHCSN(CH_2CH_2OH)_2$ from 15 g. I and 21 g. $(HOCH_2CH_2)_2NH$ (IV) in 50 ml. EtOH, viscous oil, decomp. at 80°/24 mm. (yield quant.). $PrNHCSNMe_2$, from 8 g. II and 14 g. 31% EtOH soln. of Me_2NH, viscous oil in quant. yield. $PrNHCSNEt_2$ (7 g.), from 5 g. II, 3.8 g. Et_2NH, and 30 ml. MeOH, yellowish viscous oil. $PrNHCSNHCHMe_2$ (10 g.), from 30 g. 20% soln. of iso-$PrNH_2$ and 8 g. II, m. 76°, sol. in hot water and org. solvents. CH_2:$CHCH_2NHCONMeBu$ (95%), from 15 g. III and 14 g. MeBuNH, viscous oil. CH_2:$CHCH_2NH$-$CSN(CH_2CH_2OH)_2$, from 50 g. III, 54 g. IV, and 50 ml. EtOH, viscous oil in quant. yield, decomp. when distd. at 4 mm.   M. Hudlický

eA

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vitamin B₁₂. Josef V. Kohut. Chemie (Prague) 4,
177 3(1948). — K. reviews the discovery and isolation of
vitamin B₁₂ and discusses the growth factor and the anti-
anemic power in the purified product.   Frank Marsh.

1952

Synthesis of 2,3-bis(alkylmercapto)propanols. J. V. Koštíř and V. Král. *Collection Czechoslov. Chem. Communs.* 14, 219-22(1949)(in English).—CH₂BrCHBrCH₂-OAc (I) and MeSNa in abs. EtOH at 30° gave 58%, CH₂(SMe)CH(SMe)CH₂OAc, b₁ 124°, and Me₂S, b₁ 40°; EtSNa and I gave 69% CH₂(SEt)CH(SEt)CH₂OAc, b₁ 145°, and Et₂S, b₂ 68°. PhCH₂SNa and I gave (Ph CH₂)₂S and impure CH₂(SCH₂Ph)CH(SCH₂Ph)CH₂OAc (II) which decompd. on distn. at 0.5 mm.; (PhCH₂)₂ was isolated from the distillate in the distn. of II.

P. M. Downey

Synthesis of β-(2 thienyl)alanine. J. V. Koštíř and V. Král. *Collection Czechoslov. Chem. Commun.* 14, 263 0 (1949)(in English). —Thiophene prepd. by the distn. of (CH₃CO₂Na)₂ with P₂S₅, was converted to 2-thienylmethyl chloride (I) according to the method of Blicke and Burckhalter (C.A. **36**, 2533⁹). HCONHCH(CO₂Et)₂ (20.4 g.) (cf. Galat, C.A. **41**, 4106⁶) and 2.29 g. Na in 150 cc. abs. EtOH, treated with 13.3 g. I and the mixt. heated 30 min. on the H₂O bath, poured into ice-H₂O, and dried first over H₂SO₄ and then over P₂O₅ gave 28 g. *Et formamido-2-thenylmalonate* (II), m. 112.5° (from EtOH); II could not be hydrolyzed and decarboxylated directly with HCl (cf. Kmr, *Chem. Listy* **42**, 6(1948)). II (15 g.) and 15.7 g. Ba(OH)₂·8H₂O in 100 cc. H₂O refluxed 2 hrs. gave 15 g. *Ba formamido-2-thenylmalonate* (III). III (3.78 g.) and 10 cc. 2 N H₂SO₄ were refluxed for 30 min., the hot reaction mixt. filtered, the filtrate taken to dryness under reduced pressure, the residue treated with 10 cc. coned. HCl, refluxed for 10 min., the HCl distd. off, and the HCl treatment repeated; the dry residue in 20 cc. EtOH added to 100 cc. pyridine gave 1.0 g. (60%) *d-2-thienylalanine*, m. 274-6° (decompn.) (cf. Barger and Easson, C.A. **33**, 1002⁹). P. M. Downey

A NEW SYNTHESIS OF 6-BROMO-3-METHOXYTOLUENE. J. Böšwart and J. V. Koštíř. Chem. Listy 43, 735(1949).—6,3-Br(MeO)C$_6$H$_3$Me was prepd. by another method—methylation of 6, 3-Br(HO)C$_6$H$_3$Me with Me$_2$SO$_4$ in an alk. soln. at 60°; yield, 93%, b$_{34}$ 156-64°, b. 236-7°.

M. Hudlický

C. A.

A NEW SYNTHESIS OF 6-METHYL-2-DITHIOURACIL. J. V. Koštíř
and V. Král. Chem. Listy 43; 37(1949).--Thiourea (1.1 g.) in
2×. MeCSCH₂CSOEt was added to 0.56 g. Na in 20 ml. abs. EtOH,
the brown reaction mixt. refluxed 30 min. at 100°, the EtOH
distd. in vacuo, the brown salt dissolved in 20 ml. H₂O, acidified
with HCl to Congo red (H₂S escaped), the ppt. filtered off, washed
with EtOH, repptd. from 2 N NaOH, and the yellow ppt. washed with
water; it is sol. in alk. solns., insol. in acids and org. solvents,
decomp. above 260°.   Milos Hudlický

Aliphatic α-chloro thio ethers. L. Jirousek and J. V. Kostir. *Chem. Listy* 43, 103-9(1940).— α-Chloro thio ethers (α-chloro sulfides) of the general formula RtSCHClR (I) were prepd. from RtSH (II) and the corresponding aldehyde (ketone) by satg. the soln. of the components with HCl and cooling to −5°. The following I are described (CHClR, b.p., and % yield given): CH_2Cl, from II and aq. or polymeric CH_2O, b. 128-30°, 45; $CHClMe$, from II and paraldehyde, b₁₀ 80-4°, 68-81; $CHClEt$, from I and

EtCHO, b₁₀ 45-55°, 70, $CClMe_2$, from I and Me_2CO, b₁₅ 60°, 20, $CHClPr$, from PrCHO, b₁₃ 55-62°, 40, $CHClCHMe_2$, from iso-PrCHO, b₁₀ 48-52°, b₁₅ 60-5°; $CHClPh$, from BzH, b₁₂ 137-9°, 81.   M. Hudlicky

C. T.

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Nitrogen derivatives of aliphatic thio ethers. L. Jirousek and J. V. Koštíř. *Chem. Listy* **43**, 183–4(1949).—α-Amino-alkyl ethyl sulfides were prepd. from the corresponding α-chloroalkyl ethyl sulfides (cf. preceding abstr.) with NH₃, C₅H₅N, and PhNH₂. *Aminomethyl Et sulfide*, prepd. from EtSCH₂Cl and excess liquid NH₃; HCl salt, sublimes without melting, and possesses a disagreeable irritating smell. *1-Aminoethyl Et sulfide* was similarly prepd. as the HCl salt. *1-(2-Ethylmercaptoethyl)pyridinium chloride*, obtained from EtSCH·CH₂Cl (I) and pyridine in Et₂O, white cryst. mass; picrate, m. 68–70° (decompn.). *N-(2-Ethylmercaptoethyl)-aniline·HCl*, from aniline and I in Et₂O, m. 190–2°, sol. in water, EtOH, insol. in Et₂O and C₆H₆.   M. Hudlický

C. A.

13

Amino acids with sugar components. Glucoseoglycine and lactoseglycine. J. V. Koláǐ and Milena Queisnerova. Chem. Listy 43, 277-9(1949).—D,-Et (glucoseformamido)malonate (I) and (lactoseformamido)malonate (II) were prepd. from acetobromoglucose (III) and acetobromo-lactose (IV), resp., with CHONHCH(CO₂Et)₂ (V). Na III (3.8 g.) in 250 ml. abs. EtOH was treated with 23 g. V. III added to the salt of V which sepd., the mixt. refluxed until the salt dissolved, the NaBr filtered off, the filtrate evapd. in vacuo, and the thick oil dissolved in EtOH and cooled with Dry Ice, giving 7 g. (14.5%) I, m. 35–40°. I (5 g.) in 25 g. 10% Ba(OH)₂ left 3 hrs. at room temp., the soln. made weakly acid with concd. HCl, and pyridine added, after 30 min. gave a sirupy ppt. which crystd. after cooling and on trypptn. yielded 2 g. (81%) glucoseglycine (VI); Cu salt of VI, prepd. from CuCO₃ and VI by pptn. with EtOH, blue, cryst., hygroscopic substance. II, prepd. analogously from 6.7 g. V and 23 g. IV with 1 g. Na in 150 ml. EtOH (yield 13.8%), m. 36–7°. Sapon. and de-carboxylation of 1.8 g. II in the same way as with I gave 1.1 g. (78%) lactoseglycine (VII); Cu salt. VI and VII were subjected to paper chromatography.   M. Hudlický

e A

A new synthesis of proline and hydroxyproline. Jiřina
Cápková-Jírků, L. V. Kolář, and M. Vondráček (Charles
Univ., Prague), *Chem. Listy* 44, 19-21(1950).—ClClₐ-
CH₂CH₂Br (I) and the Na salt of HCONHCH(CO₂Eth (II)
gave *di-Et (3-chloropropyl)formamidomalonate* (III), m.
87°, which, on hydrolysis with NaOH, gave Na (3-chloro-
propyl)aminomalonate (IV). IV was cyclized by acidifica-
tion with HCl and evapn. to DL-*proline·HCl*(V). BaCO₃
liberated DL-*proline* (Va) from V. II with epibromohydrin
(VI) gave the γ-lactone of mono-Et (3-bromo-2-hydroxy-

propyl)formamidomalonate (VII), which yielded the Na
salt of the lactone of (3-bromo-2-hydroxypropyl)aminomalonic
acid (VIII). VIII and HCl gave hydroxyproline·HCl (IX) from
which hydroxyproline (X) was liberated with BaCO₃. Na
(2.3 g.) in 45 ml. EtOH and 20.3 g. II gave the Na salt of II,
to which was added 20.5 g. I, the mixt. refluxed 2 hrs., the
NaBr removed, and the boiling mixt. contg. III treated with
small portions of pulverized NaOH (2.5 g. in the course of 4
hrs.) to yield IV. After cooling, the mixt. was dissolved in
30 ml. water, the EtOH evapd., the residue diltd. with 40
ml. water, acidified with concd. HCl, evapd. to dryness on a
steam bath, the residue dissolved in concd. HCl, filtered,
evapd., kept in a desiccator over H₂SO₄. Cryst. V dissolved
in 30 ml. EtOH, diltd. with 50 ml. water, the EtOH evapd.,
the mixt. treated with PbCO₃, filtered, the filtrate evapd.,
extd. with 30 ml. 95% EtOH to remove undissolved glycine,
and the ext. evapd. and Va purified as the Cu salt. III
was usually not isolated. To prep. X, 2.3 g. Na, 45 ml.
EtOH, 20.3 g. II, and 17.5 VI were heated 2 hrs. on a
steam bath, the NaBr removed, and the mixt. treated with
1.5 g. pulverized NaOH and heated 6 hrs.; X was obtained
and isolated in the same manner as Va.   M. Hudlický

C A

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A new synthesis of 1-bromo-3-methyl-4-hydroxyanthra-quinone. J. V. Kokil and J. Bowart (Charles Univ., Prague). Chem. Listy 44, 42-3(1950).—α-C₆H₄(CO)₂O (1 g.) and 1.68 g. 4,3-BrMeC₆H₃OH were added in portions to a melt of 11 g. AlCl₃ and 2.2 g. NaCl at 140-50°, the mixt. heated 2 hrs. at 200°, then cooled, treated with dil. HCl, boiled, filtered, the residue boiled 3 times with water, dried, and the product extd. with hot AcOH to yield 1.4 g. (50%) 1-bromo-3-methyl-4-hydroxyanthroquinone, orange crystals, m. 185°.

M. Hudlický

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Esters of formamidomalonic acid. J. Cuphová-Jirků, J. V. Koláš, and M. Vondráček (Charles Univ., Prague). Chem. Listy 44, 114–16(1950).—The Na salt of $HCONH\cdot CH(CO_2R)_2$ (I) and $BrCH:CHCH_2Br$ (II) gave $BrCH:\cdot CHCH_2C(NHCHO)(CO_2R)_2$ (III), which with I gave $(OHCNH)(CO_2R)_2CCH_2CH:CHC(NHCHO)(CO_2R)_2$ (IV). Addn. of Br to IV gave $(OHCNH)(CO_2R)_2CCH_2CHBr\cdot CHBr\cdot C(NHCHO)(CO_2R)_2$ (V). $CH_2:CBrCH_2Br$ (VI) and I gave $CH_2:C\cdots H_2C\cdots(CO_2R)_2$ (VII), which with

Br gave $CH_2BrCBrCH_2C(NHCHO)(CO_2R)_2$ (VIII). The Mg salt of I and $BuBr$ gave $BuC(NHCHO)(CO_2R)_2$ (IX). Na (2.3 g.) in 45 ml. EtOH was treated with 20.3 g. I and 20 g. II and heated 30 min. on a steam bath. After removal of NaBr and EtOH 40% III, m. 49–50°, was pptd. with water from EtOH soln.; III is sol. in EtOH, Et$_2$O, and boiling water and insol. in cold water. In the same manner 85% IV, colorless needles, m. 64–6°, was prepd. from III and I by heating the mixt. 3 hrs. on the steam bath. IV is sol. in EtOH and Et$_2$O and insol. in water. Bromination of 2 g. IV in CCl$_4$ with 0.8 Br gave 68% V, m. 176°. VII was prepd. from I and VI with the same amts. of reagents as in the prepn. of III. The product was digested with hot water, VII (43.3%) sepd. as an oil which formed crystals, m. 30–40.5° (from water). VII with Br in CCl$_4$ gave 72% VIII, m. 135–6°. VIII is sol. EtOH, Et$_2$O, and CHCl$_3$ and insol. in water. Mg (0.3 g.) was boiled 15 min. with 3 g. I in 20 ml. AmOH, an equiv. amt. of BuBr added, the mixt. heated 2 hrs. on the steam bath, the AmOH stripped off in vacuo, the residual oil digested with Et$_2$O, the ether ext. washed with dil. HCl, Na$_2$CO$_3$ soln., and water, the ether evapd., and the oil dissolved in EtOH and poured into water; IX (37%) sepd. as crystals, m. 101°. IX is sol. in EtOH and Et$_2$O and insol. in water.   M. Hudlický

CH

Synthesis of 2,2'-dimethyl-4,4'-dihydroxybiphenyl. I
V. Kralik and M. Suk (Charles Univ., Prague) Chem
Listy 44, 118-19 (1950). 2,2'-Dimethyl-4,4'-dihydroxybi-
phenyl (I), m. 128° (from CuO), was prepd. from 2,2'-3,4-
Me(H₂N)C₆H₃, through the bisdiazonium compd. Dilg.
of the diazotized soln. before boiling is necessary, and the
optimum yield (63.3%) was obtained by dilg. the re-
action mixt. from 1 g. m-toluidine with 2 l. water after di-
azotization.   M. Hudlický

BERAN, M.; KOSTIR, J.V.; PADR, Z.

Artificial iodization of proteins; preparation of iodized casein.
Cas.cesk.lek.Ved.priloha 63 no.9-12:136-138 Dec 1950. (CLML 20:9)

1. Of the Institute of Organic Chemistry of Charles University, Prague.
2. Of the Research and Control Institute, United Pharmaceutical Works,
Prague.

KOSTIR, J.V.

Protein chemistry. Sborn. pathofysiol. trav. vys. 5 no.6:261-266 1951.
(CLML 23:2)

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17

Volahlík, J. V. Kokil, and A. Jindra (Univ. Prague).
Ceshoslev. farm. T. 311-6(1932).—General conditions are
given.   Dagmar Hubíková

CA

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Symphytum officinale. J. V. Koštíř and A. Bína (Univ. Prague). Československ. farm. 1, 305-9(1952).—A review on botany, history, chemistry, and use, with 32 references.
                                                    Dagmar Hubíková

Creatinine estimation in blood serum. J. V. Koštíř and J. Sůcha (Charles Univ., Prague). Biochim. et Biophys. Acta 9, 86–9(1952)(in English).—Serum or plasma, dild. with an equal vol. of H₂O, is deproteinized by addn. of H₂SO₄ and Na₂WO₄, centrifuged, satd. Ce(SO₄)₂ soln. added to destroy MeCOCO₂H, neutralized with NaOH after 10 min., pink ppt. removed by centrifugation, picric acid added, and the soln. assayed photometrically at 600 mµ. Serum values found vary from 0.3 to 0.6 mg. % apparent creatinine.
I. P. Bauchy

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Chromatographic determination of ergotamine and ergotoxine. Cesk.
farm. 1 no. 11-12:621-625 1952.   (CLML 24:1)

1. Of the Research Institute for Pharmacy and Biochemstry and of
Biochemstry of Charles University, Prague.

KOSTIR, J.V.;PRISTOUPIL, T.I.

> Isolation of creatinine and glycocyamine with paper chromatography.
> Cesk. farm. 1 no. 11-12:647-649 1952.   (CIML 24:1)
>
> 1. Of the Institute of Biochemistry of Charles University and of the
> Third Internal Clinic of State Faculty Hospital, Prague.

KOSTIR, J.;PADR, Z.

Veratrum alkaloids. Cesk. farm. 2 no.12:418-422 Dec 1953. (CIML 25:5)

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Paper partition chromatography of the fission products of riboflavin. IV.
Effect of pH and light on solutions of riboflavin. p.205
(Chemicke Listy. Vol. 47. no. 2, Feb. 1953) Czechoslovakia

SO: Monthly List of East European Accessions. Vol. 2, #8, Library of Congress,
     August 1953. Incl.

NOSTIR, JOSEF V.

Paper chromatography of glucocyamidine in urine.
Josef V. Koštíř and Tomáš I. Přístoupil (Karls Univ.,
Praha, Czech.). *Časopis Lékařů Českých* 92, 188(1953).—
Urine was subjected to paper chromatography with H_2O-
satd. PhOH, BuOH, and H_2O in the ratio 1:1:2 on What-
man No. 1 or S. & S. 605 paper at 18°. It was discovered
that some glucocyamidine (I) is present besides the creat-
inine (II), but the presence of I does not falsify the results
of a II detn. with the Jaffe reaction by the usual method.
The ratio of II:I is always 6:1 to 3:1 in normal urines and in
those from patients with diabetes mellitus, liver cirrhosis,
chronic nephritis, myositis ossificans, and other diseases.
Werner Jacobson

Rasieparilli[...]

[...] and Sufen[...] to[...] Act[...] violet, blue and brown[...] were used to contribute to the cherry-red color of[...] Ph[...] reaction. Thus[...] does not represent the[...] constituent of the minor[...] intensity. These results concerning the metabolism of[...] and related[...] in the Ph[...] reaction[...] measured.

—Adani

KANDRAC, M.; KOSTIR, J.; KASPAROVA, J.; TICHY, J.

Reduction of progesterone in the organism. II. Methyl ketones (pregnenolones) in pregnancy. Cas. lek. cesk. 93 no.7:161-163 12 Feb 54.

1. Z III. interni kliniky Karlovy univ. v Praze (predn. prof. Dr. J. Charvat) a z Biochemickeho ustavu KU v Praze predn., doc. Dr. J. Kostir.
      (PREGNANCY, urine in,
          pregnenolone.)
      (URINE,
          pregnenolone in pregn.)
      (PREGNENOLONE, in urine,
          in pregn.)

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Metalloproteins. I. Inhibition of ascorbase with demercaptopropanol.
Cesk. farm. 4 no.1:17-20 Jan 55.

1. Z biochemickeho ustavu university Karlovy.
       (OXIDASES,
           ascorbase, inhib. with BAL)
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Alkaloids and dyes of Ustilago maydis. Cesk.farm. 4 no.3:134-136
Apr 55.

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    (ALKALOIDS,
        of Ustilago maydis, separation, chromatography)
    (DYES,
        in Ustilago maydis, chromatography)
    (CHROMATOGRAPHY,
        alkaloids & dyes of Ustilago maydis)
    (PLANTS,
        Ustilago maydis, separation of alkaloids & dyes, chroma-
        tography)

KOTIK Jose F. V.

CZECHOSLOVAKIA / Human and Animal Physiology. Growth   T
          Physiology.

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40917.

Author : Kostir, J.
Inst   : Not Given.
Title   : Biochemistry of Aging.

Orig Pub: Vesmir, 1956, 35, No 9, 295-296.

Abstract: Some biochemical peculiarities of the young and
          aged organism are considered, mainly the relation-
          ship between ana- and catabolic processes.

Card 1/1

KOSTIR, J.

Aphins.

P. 54, (Chemie, Vol. 9, no. 1, Apr. 1957, Praha, Czechoslovakia)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,
February 1958

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Biologic methylation and transmethylation.

P. 91 (Chemie, Vol. 9, no. 1, Apr. 1957, Praha, Czechoslovakia)

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p. 722 (Chemie, Vol. 9, no. 5, Nov. 1957)

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Our experiences with the so-called Akerfeldt reaction in psychosis.
Cesk. psychiat. 53 no.6:395-397 Dec 57.

1. Psychiatricka klinika KU a Biochemicky ustav matematicko-fysikalni
fakulty v Praze. L. D., Praha 2, Ke Karlovu 11.
       (SCHIZOPHRENIA, diag.
              Akerfeldt test (Cz))

KOSTIR, J.

1. "The Chemistry of Trans-Curium Elements," Miroslav KRIVANEK of the Joint Nuclear Research Institute (original-language version but given in Czech; Unit) and Miroslav KYSS, formerly of the A. I... prody Military Academy (Vojenska Akademie A. Zapotockeho) in Brno, present address: the CSAV (Czechoslovak Academie Ved (Czechoslovak Academy of Sciences) Nuclear Research Institute (Ustav jader... nebo vyzkumu) in Rez near Prague) pp 330-336.

2. Induced Reactions in Analytical Chemistry, pp 336-340.

3. "Application of Organic Reagents in Argentometric Titrations of Certain Rare Elements," F. VYDRA (affiliation not given) pp 341-345.

4. Determination of the Permeability of Foils for Sulphur Dioxide, Josef KASPRZAK and Ladislav KOPLIK of the Packaging Institute (Ustav balicky techniky), Prague) pp 345-352.

5. "Measurement of the Efficiency of Flotation Foaming Agents," Petr SOMMLER and Jan KLOSOVX, CSAV Institute of Chemical Technology, new Materials (Ustav ... aneb keramiekych a koreopryech surovin), Prague) pp 375-382.

6. "Phthalimide Prep for Dosing Small Quantities of Polished Liquids," Jiri KOTRLY, CSAV Polarographic Institute (Polarograficky ustav), Prague) pp 385-391.

7. "Cells for the Near Infra-Red Region, Suitable for the UR-10 Spectro-photometer," Josef POSPISIL and Ivo KOSLER, CSAV Institute of Physical Chemistry (Ustav fyzikalni chemie), Prague, pp 392-393.

8. Patents, pp 394-395.

9. Book Reviews, pp 401-403.

10. "About Publishing, Part II, Form of Publications," J. SMRHA and M. EBRL (affiliation not given) pp 413-417.

11. Congress on the Teaching of Biochemistry at the Natural Sciences Faculties," L. KOSTIR (affiliation not given) pp 417-420.

12. The 1961 Nobel Prize for Chemistry (author's name not given) p 421.

13. Report on the 24 November 1961 Session of the Central Committee of the Czechoslovak Chemical Society within the CSAV, unsigned; pp 421-426.

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1/2

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Determination of indole derivatves in natural materials.
Pt.5. Rost vyroba 9 no.9:981-988   S'63.

1. Katedra biochemie, Karlova universita, Praha; Vyzkumny
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Floco in steel. Analele metalurgie 16 no.1:183-188 Ja-Mr '62.

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no.4:104-109 '65.   (MIRA 18:8)

1. Iz kafedry obshchey khirurgii lechebnoy fizkul'tury 1-go Moskov-
skogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova
(zav. - chlen-korrespondent AMN SSSR prof. V.I.Struchkov).

KOSTISHIN, M.T.; SHISHLOVS'KIY, O.A.

Simultaneous determination of the thickness and refractive index of thin layers by means of the "HII-1" microinterferometer. Nauk. zap.Kiev.un. 15 no.5:27-35 '56.   (MIRA 10:7)
                          (Interferometry)

KOSTISHIN, M.T. [Kostyshyn, M.T.]

Determining the order of interference in the region of strong
dispersion and elimination of the phase shift effect in the
interference method of measuring dispersion. Visnyk Kyiv.un.no.2.
Ser.fiz.ta khim. no.1:11-15 '59.   (MIRA 14:8)
          (Interference (Light))   (Dispersion)

KOSTISHIN, M.T. [Kostyshyn, M.T.]

Determining the relative shape of the dispersion curve in the region of the absorption zones. Visnyk Kyiv.un.no.2.Ser.fiz.ta khim. no.1:17-20 '59.

(MIRA 14:8)

(Dispersion)

MOLOTKOVSKIY, G.Kh. [Molotkovs'kyi, H.Kh.]; KOSTISHIN, S.S. [Kostyshyn,
     S.S.]

     Integrity and polarity of the heterotic hybrid corn (Zea mays
     L.) Bukovinskii 1,2.3. Ukr. bot. zhur. 22 no.3:11-18 '65.
                                                  (MIRA 18:7)
     1. Chornovitskiy gosudarstvennyy universitet, kafedra fiziologii
     rasteniy.

KOSTITCH, D.

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Bull.Acad.serbe sc.,classe med. 11 no.2:32-33 1954.
        (FLIES,
            Phlebotominae, blood meal)

KOSTITSINA K. P.

SKOBETS, Ye.M.;ABARBARCHUK, I.L.; KOSTITSINA, K.P.; BELINSKAYA, N.I.

Polarographic soil analysis. Determining the intake capacity of soils. Pochvovedenie no.1:99-105 Ja '58.   (MIRA 11:2)
(Soils—Analysis)
(Polarography)

KOSTITSYN, V.N.

General groups of elements of two involutions of higher orders and steps defined on a single unicursal carrier. Uch. zap. MOPI 123:459-463 '63.

m-Hyperhedra circumscribed about a unicursal curve of the r-th class in n-dimensional space. Ibid.:465-468   (MIRA 17:4)

KOSTITSYNA, K.P.; SKOBETS, Ye.M.

Polarographic determination of aluminum in alloys.   Zav. lab.
29 no.9:1059   '63.   (MIRA 17:1)

1. Ukrainskaya sel'skokhozyaystvennaya akademiya.

ABARBARCHUK, I.L.; KOSTITSYNA, K.P.; SKOBETS, Ye.M.

Polarographic determination of exchangeable aluminum in soils.
Pochvovedenie no.2:114-116 F '62.   (MIRA 15:3)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk.
          (Soils--Aluminum content)

BULATOVA, Z.I.; VOYTSEL', Z.A.; GORBOVETS, A.N.; IVANOVA, Ye.A.; KAZ'MINA,
    T.A.; KISEL'MAN, E.N.; KLIMKO, S.A.; KLIMOVA, I.G.; KOZYREVA, V.F.;
    KORNEVA, F.R.; KOSTITSINA, R.P.; KRUGLOVA, Z.M.; STRIZHOVA, A.I.;
    MARKOVA, L.G.; TARASOVA, A.S.; USHAKOVA, M.V.; FILIPPOVA, Ye.A.,
    ved.red.; TROFIMOV, A.V., tekhn.red.

[Mesozoic and Cenozoic stratigraphy of the West Siberian Lowland]
Stratigrafiia mezozoia i kainozoia Zapadno-Sibirskoi nizmennosti.
Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry,
1957. 147 p.   (MIRA 12:2)

1. Gosudarstvennyy soyuznyy Zapadno-Sibirskiy neftderazvedochnyy
trest.
            (Siberia, Western—Geology, Stratigraphic)

KOSTITSKIY, G.I.

Effect of a substituted charge fired from a shotgun. Sud.-med. ekspert. 2 no.1:56-57 Ja-Mr '59. (MIRA 13:4)

1. Mogilevskoye oblastnoye byuro sudebnomeditsinskoy ekspertizy (nachal'nik M.M. Tkach).
(GUNSHOT WOUNDS)

SYTSKO, P.A.; TITOV, S.A.; KOSTITSKIY, I.V.; KUCHERENKO, V.S.; MATVIYENKO, B.N.

Beginning made by the Orsha track workers. Put' i put. khoz. no.9:
5-8 S '58.
(MIRA 11:9)

1. Nachal'nik otdeleniya dorogi st. Orsha (for Sytsko). 2. Nachal'nik
distantsii puti st. Orsha (for Titov). 3. Nachal'nik vagonnogo uchastka
st. Orsha (for Kostitskiy). 4. Nachal'nik parovoznogo depo st. Orsha
(for Kucherenko). 5. Nachal'nik energeticheskogo otdela st. Orsha
(for Matviyenko).
(Orsha--Railroads--Track)

2434   KOTITSEN, L. T. K voprosu o kholesteatomakh pridatochnykh pazukh nosa.
Truly Glav. voyen. Gos-pitalya Vooruzh. Sil SSSR im. Akad. Burdenko.
VIP. 6. M., 1949, s. 296-301.

SO: Letopis, No. 32, 1949.

KOSTITSYN, L.T. (Moskva)

Giant styloid process. Vest.otorin. 18 no.2:77 Mr-Ap '56. (MIRA 9:7)
(TEMPORAL BONE--ABNORMITIES AND DEFORMITIES)

KOMISSAROV, A.N., kand.med.nauk; KOMISSAROVA, N.Ye.; KOSTITSYN, L.T., kand.
     med.nauk

     Sequence of reactive changes in the blood exposed to ionizing radiation.
     Terap.arkh. 31 no.8:3-12 Ag '59.   (MIRA 12:11)

     1. Iz Glavnogo voyennogo gospitalya imeni N.N. Burdenko (nauchnyy
     rukovoditel' raboty - chlen-korrespondent AMN SSSR prof. N.A.
     Kurshakov).
               (BLOOD radiation effects)

Kos T, Tsy N, V. T. (Diceaser)

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25(2)   PHASE I BOOK EXPLOITATION   SOV/2563

Akademiya nauk SSSR. Institut mashinovedeniya. Seminar po teorii mashin i
    mekhanizmov

Trudy, tom 18, vyp. 71 (Transactions of the Institute of Mechanical Engineering,
    Academy of Sciences, USSR. Seminar on the Theory of Machinery and Mechanisms,
    Vol 18, No. 71) Moscow, Izd-vo AN SSSR, 1958. 89 p. Errata slip inserted.
    2,500 copies printed.

Ed. of Publishing House: M.L. Dobahits; Tech. Ed.: N.F. Yegorova; Editorial
    Board: I.I. Artobolevskiy, Academician (Resp. Ed.); G.G. Baranov, Doctor
    of Technical Sciences, Professor; V.A. Gavrilenko, Doctor of Technical
    Sciences, Professor; V.A. Zinov'yev, Doctor of Technical Sciences, Professor;
    A.Ye. Kobrinskiy, Doctor of Technical Sciences; N.I. Levitskiy, Doctor of
    Technical Sciences, Professor; N.P. Rayevskiy, Candidate of Technical Sciences;
    L.N. Reshetov, Doctor of Technical Sciences, Professor; and M.A. Skuridin,
    Doctor of Technical Sciences, Professor.

PURPOSE: This collection of articles is intended for scientific research workers
    and engineers.

Card 1/4

Transactions (Cont.)   SOV/2563

COVERAGE: This collection of articles deals with the following topics: thread control in textile machines, pneumatic devices with diaphragms, resonance in centrifugal pumps, the dynamics of electrically driven machinery, synthesis of four-link transmission mechanisms, and the design of link mechanisms. No personalities are mentioned. References follow several of the articles.

TABLE OF CONTENTS:

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Transactions (Cont.)   SOV/2563

Examples of the calculations involved are presented.

Kononenko, V.O. [Doctor of Technical Sciences]. Resonance Properties of a
Centrifugal Vibrator   22
    Equations for the motion of a centrifugal vibrator are presented, and the
    basic interrelations between the parameters of the system and the regimes
    of the motion are established. Simplified geometrical criteria for steady
    motion and the effect of mechanical characteristics are presented.

Bykhovskiy, M.L. [Doctor of Technical Sciences]. Problem of the Dynamics of
Machinery With Electric Drives   43
    The author derives a general equation for investigating the dynamics of d-c
    electromechanical systems, with consideration being given to electromagnetic
    processes in the motor. A comparison is made with other simplified methods which
    take only the static characteristics of the motor into consideration.

Cherkudinov, S.A., and N.V. Speranskiy. Synthesis of Four-bar Linkage Mechanism
by the Method of Interpolative Approximation With One Node of High Multiplicity 60
    This article is the continuation of an article published by the authors in

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Transactions (Cont.)

SOV/2563

Volume I, Number 67, 1957, under the same title. Methods developed in the first part are applied to the synthesis of the slider-crank mechanism.

Grodzenskaya, L.S. Design of Linkage Mechanisms for a Given Time of Dwell of the Follower Link

Methods for designing . link mechanisms with a dwell in the extreme position 69
(Chebyshev mechanisms) are discussed.

AVAILABLE: Library of Congress

Card 4/4

GO/jb
12-19-59

KOSTITSYN, Yu.S.

The "shoe symptom" - an easily detectable sign of sweat secretion
disorders in endarteritis obliterans. Vrach. delo no.1:75-76 Ja '62.
(MIRA 15:2)

1. Khirurgicheskoye otdeleniye Krasnokutskoy rayonnoy bol'nitsy
Khar'kovskoy oblasti.
(ARTERIES__DISEASES)   (SWEAT GLANDS__DISEASES)

KOSTITSYNA, K. P.

The viscosity of the system titanium tetrachloride-bromine. L. L. Abartarchuk and K. P. Kostitsyna (Agr. Inst., Kiev). Ukrain. Khim. Zhur. 19, 618-21(1953).—CH Viscosity measurements at 20° indicate the existence of $2TiCl_4.Br_2$, which decomp. at higher temp. Cryoscopic studies of the system in $PhNO_2$ do not indicate the existence of compds.   H. M. Leicester

KOSTIUKOW, Jurij M.

Geological mapping of Wielka Świstowka and the Mulowy
and Litworowy Hollows. Acta geol Pol 13 no.2:223-238 '63.

1. Laboratory of Geological Mapping, University, Warsaw.

KOSTIENKO, A. I.

Dissertation: "Investigation of the Superhigh-Frequency Electronics of a Triode Amplifier."
Cand Phys-Math Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov, 16 Jun 54.
(Vechernyaya Moskva, Moscow, 7 Jun 54)

SO: SUM 318, 23 Dec 1954

KHARKEVICH, Aleksandr Aleksandrovich; KOSTLYENKO.A.I., redaktor;
TUMARKINA, N.A., tekhnicheskiy redaktor

[Nonlinear and parametric phenomena in radio enegineering] Nelineinye
i parametricheskie iavleniia v radiotekhnike. Moskva, Gos. izd-vo
tekhniko-teoret. lit-ry, 1956. 184 p.   (MLRA 10:1)
          (Radio circuits)

GVOZDOVER, Samson Davidovich; KOSTIYENKO, A.I., redaktor; TUMARKINA, N.A.,
tekhnicheskiy redaktor

[Theory of ultra-high frequency electronic apparatus] Teoriia elektron-
nykh priborov sverkhvysokikh chastot. Moskva, Gos. izd-vo tekhniko-
teoret. lit-ry. 1956. 527 p.
    (Electron tubes)   (MLRA 9:11)

KOSTYENKO, A.I.

Investigation of the electron conductivity of plane electrode
tubes. Radiotekh.i elektron. 1 no.6:809-813 Je '56.   (MIRA 10:1)

1. Fizicheskiy fakul'tet Moskovskogo Gosudarstvennogo universiteta.
(Amplifiers, Electron-tube)

VISHENCHUK, Igor' Mikhailovich; SOGOLOVSKIY, Yevgeniy Panteleymonovich;
SHVETSKIY, Bentsion Yosifovich; KARANDEYEV, K.B., red.; KOSTIYENKO,
A.I., red.; MURASHOVA, N.Ya., tekhn.red.

[The electron-beam oscillograph and its use in measuring]
Elektronno-luchevoi ostsillograf i ego primenenie v izmeritel'noi
teknnike. Pod red. K.B.Karandeeva. Moskva, Gos.izd-vo tekhniko-
teoret.lit-ry, 1957. 220 p.   (MIRA 10:12)
        (Cathode ray tubes)   (Measuring instruments)

Kostiyenko, A. I.

KHARKEVICH, Aleksandr Aleksandrovich; KOSTIYENKO, A.I., red.; GAVRILOV, S.S., tekhn.red.

[Spectra and analysis] Spektry i analiz. Izd. 3-e, perer. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry. 1957. 236 p.   (MIRA 11:2)
   (Spectrum analysis)

KOSTIYENKO, A.I.

KHARKEVICH, Aleksandr Aleksandrovich; KOSTIYENKO, A.I., red.; GAVRILOV, S.S., tekhn.red.

[Theoretical elements of radio communication] Teoreticheskie osnovy radiosviazi. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1957. 347 p.   (MIRA 11:3)
(Radio)

LEBEDEV, Vsevolod Leonidovich; RYTOV, S.M., prof., retsenzent; YAGLOM, A.M.,
doktor fiz.-mat.nauk, retsenzent; KOSTIYENKO, A.I., kand.fiz.-mat.
nauk, red.; AKHLAMOV, S.N., tekhn.red.

[Random processes in electric and mechanical systems] Sluchainye
protsessy v elektricheskikh i mekhanicheskikh sistemakh. Moskva,
Gos.izd-vo fiziko-matem.lit-ry. 1958. 176 p.   (MIRA 12:2)
                    (Probabilities)

KOSTIYENKO A. I.

109-1-12/18

AUTHORS: Gvozdover, S.D., Kostiyenko, A.I., Lyubimov, G.P.

TITLE: Experimental Study of the Mutual-Synchronous Operation of the Reflex Klystrons of the 3-cm Waveband (Eksperimental'noye izucheniye vzaimno-sinkhronnoy raboty otrazhatel'nykh klistronov trekhsantimetrovogo diapazona)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.III, Nr 1, pp.105-111 (USSR)

ABSTRACT: Mutual synchronisation of the reflex klystrons can be explained with reference to Fig.1, which represents the output power p and the frequency f of two klystrons as a function of the voltage applied to the reflector. One of the klystrons operates at a frequency somewhat lower than the other, but the difference is such that while the output power of one of the klystrons decreases, that of the other increases. Consequently, it is possible to obtain an almost constant output power over the whole range between the two "steady state" klystron frequencies. Furthermore, the resulting output frequency can be made a linear function of the reflector voltage. The phenomenon was investigated experimentally by means of the equipment shown in the block schematic of Fig.2. The equipment consisted of:

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109-1-12/18

Experimental Study of the Mutual-Synchronous Operation of the Reflex
Klystrons of the 3-cm Waveband

(1) klystron outputs, (2) attenuators, (3) waveguide
junctions, (4) a T-junction, (5) an impedance transformer,
(6) a waveguide-cable transformer, (7) a detector head,
(8) a load, (9) 2 klystrons, (10) a wavemeter, (11) a spec-
trum analyser, (12) an amplifier, (13) an oscillograph,
(14) a sawtooth voltage generator, (15) a switch and,
(16) klystron power supply. The experimental output power
and frequency curves as a function of the reflector voltage
are shown in Figs.3a and 3b. It was found that the kly-
strons can be operated under several different modes; some
of these are characterised by the absence of mutual syn-
chronisation while others may lead to the appearance of
beats. It was found, for example, that the synchronous
regime could be obtained if the reflector voltage was var-
ied by ±5 V. Some experimental work was carried out on 3
and 5 klystrons operating with a common load. The power
and frequency response of the 3-klystron system are shown
in Fig.7 while the power response of the 5-klystron system

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Experimental Study of the Mutual-Synchronous Operation of the Reflex   109-1-12/18
Klystrons of the 3-cm Waveband

is illustrated in Fig.3. From the above it is concluded
that the 3-klystron system can be used in practical appli-
cations, whereas the systems employing a larger number of
klystrons appear impractical. There are 8 figures and 2
Russian references.

ASSOCIATION: Physics Faculty of the Moscow State University, im.
M. V. Lomonosov (Fizicheskiy fakul'tet Moskovskogo gosu-
darstvennogo universiteta im. M. V. Lomonosova)

SUBMITTED: December 7, 1956

AVAILABLE: Library of Congress

Card 3/3

Kostiyenko A. I.

AUTHORS: Kostiyenko, A.I., Lyubimov, G.P.   109-1-13/18

TITLE: The Influence of a Load on the Mutual-Synchronous Operation of 2 Reflex Klystrons (Vliyaniye nagruzki na vzaimno-sinkhronnuyu rabotu dvukh otrazhatel'nykh klistronov)

PERIODICAL: Radiotekhnika i Elektronika, 1958, Vol.III, Nr 1, pp.112-115 (USSR)

ABSTRACT: The effect was investigated experimentally by means of the equipment shown in Fig.1, p.112. This consisted of : (1) two klystron heads, (2) attenuators, (3) a T-junction, (4) an impedance transformer, (5) an output section (to the wavemeter), (6) an output section to a spectrum analyser, (7) a power indicator and (8) a dummy antenna. Two types of measurements were carried out. In the first case the input impedance of the load was strongly dependent on frequency; the impedance curve is given in Fig.2B. The output power curve and the output frequency curve as a function of the reflector voltage are shown in Figs.2a and 2B respectively. When the load was less frequency dependent (as is shown in Fig.3B) the output power and the frequency curves as a function of the reflector voltage were in the form shown in Figs.3A and B respectively. From the above it is seen that the power output and

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109-1-13/18

The Influence of a Load on the Mutual-Synchronous Operation of 2
Reflex Klystrons

the effective synchronous tuning bandwidth of the two kly-
strons is dependent on the load impedance; if the
impedance-frequency characteristic of the load is constant,
the output frequency is almost a linear function of the re-
flector voltage and the output power is constant over an
appreciable band of frequencies. The authors express their
gratitude to M. A. Drozdova and A. A. Lebed' for their help
in this work. There are 3 figures, 1 table, and 1 Russian
and 1 English reference.

ASSOCIATION: Chair of Radio Engineering of the Physics Faculty of
the Moscow State University im. M. V. Lomonosov (Kafedra
radiotekhniki fizicheskogo fakul'teta Moskovskogo
gosudarstvennogo universiteta im. M. V. Lomonosova)

SUBMITTED: January 23, 1957

AVAILABLE: Library of Congress

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06509
SOV/141-58-4-25/26

AUTHORS: Kostiyenko, A.I., Devyatkov, M.N. and Lebed', A.A.

TITLE: Electronic Detection at Ultrahigh Frequencies
              (Elektronnoye detektirovaniye na sverkhvysokikh
              chastotakh)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika,
              1958, Nr 4, pp 168-170 (USSR)

ABSTRACT: The work reported deals with the possibility of the
              detection of ultrahigh frequency signals by means of
              reflex klystrons. An experimental investigation was
              carried out on glass tubes types K-11 and K-26, operating
              at wavelengths to $\lambda = 10$ cm and $\lambda = 3$ cm. The detection
              was achieved by separating the grids of the klystron
              resonators and by applying to them various positive
              potentials. This arrangement permitted the obtaining
              of various potential distributions in the interaction
              space and in the reflector space of the klystrons. The
              experimental system employed is illustrated in Fig 1,
              while its potential distributions are shown in Fig 2.
              The detector curves are shown in Fig 3 and 4. Fig 3
Card 1/2   illustrates the detector current ΔI_0 and the reflector

SVIRIDOV, Vladimir Timofeyevich; KOSTIYENKO, A.I., red.; GAVRILOV,
S.S., tekhn.red.

[Radio relay lines] Radioreleinye linii sviazi. Moskva,
Gos.izd-vo fiziko-matem.lit-ry, 1959. 78 p. (MIRA 12:10)
(Radio relay systems)

VISHENCHUK, Igor' Mikhaylovich; SOGOLOVSKIY, Yevgeniy Panteleymonovich;
    SHVETSKIY, Bentsion Iosifovich; KARANDEYEV, K.B., red.;
    KOSTIYENKO, A.I., red.; MURASHOVA, N.Ya., tekhn.red.

[Cathode-ray oscillograph and its use for measuring] Elektronno-
luchevoi ostsillograf i ego primenenie v izmeritel'noi tekhnike.
Pod red. K.B.Karandeeva. Moskva, Gos.izd-vo fiziko-matem.lit-ry,
1959. 220 p.   (MIRA 12:4)
            (Cathode ray oscillograph)

SHEVCHIK, Vladimir Nikolayevich; KOSTIYENKO, A.I., red.; MASHAROVA, V.G.,
    red.; SMURCV, B.V., tekhn.red.

[Osnovy elektroniki sverkhvysokikh chastot] Osnovy elektroniki
sverkhvysokikh chastot. Pod red. A.I.Kostienko. Moskva, Izd-vo
"Sovetskoe radio," 1959. 306 p.   (MIRA 12:3)
                        (Electronics)

AUTHOR: Kostiyenko, A.I.

TITLE: A Method of Measuring the Electron Admittances of Flat-Electrode Tubes (Ob odnom metode izmereniya elektronnykh provodimostey ploskoelektrodnykh lamp)

ABSTRACT: The equipment used in the measurements of the electron admittances of U.H.F. tubes is shown diagrammatically in Fig 1. In this, the inter-electrode gap to be investigated is placed between two sections of the centre conductor of a co-axial line; this is illustrated in detail in Fig 2. The U.H.F. power from a generator is fed to the investigated inter-electrode gap. The input admittance of the line section following the gap is determined by measuring: (a) the characteristics of the line section between the measuring line and the investigated gap; (b) the admittance of the gap itself and (c) the position of the plunger (see Fig 2) with respect to the gap. The equipment is particularly suitable for measuring the admittances of klystrons and

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A Method of Measuring the Electron Admittances of Flat-Electrode
Tubes

lighthouse tubes as shown in Fig 2. The measured tube
can be represented by means of an equivalent quadripole.
It is shown that the characteristic equation of the
quadripole is in the form of Eq (15), where Δx_2 is
displacement of the shorting plunger from its rest
position, l_{30} is the effective length of the non-
homogenous section of the line (between cross-sections
C D and A'B'), λ is the wavelength, $\beta = 2\pi/\lambda$;
Z_{02} is the wave impedance of the plunger line section,
while X_{11} and X_{22} are the equivalent parameters of the
quadripole in a passive state (without an electron
beam). The remaining symbols of Eq (15) are defined on
pp 316 and 317. The impedance of the inter-electrode
gap in a "hot" tube is expressed by Eq (16), where R_3
and X_3 are the resistance and the reactance components
of the electron impedance of the gap. This impedance
is expressed by Eq (17). From the above it is seen that
the impedance or the admittance (see Eq (18)) of a tube
can be evaluated from the measured values of the input
admittances. The parameters of the equivalent

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A Method of Measuring the Electron Admittances of Flat-Electrode
Tubes

quadripole can be determined by displacing the plunger
and determining the dependence of the position of the
standing wave node on the position of the plunger.
These measurements are plotted in the form of curves and
straight lines, as functions of Δx or $ctg\beta \Delta x$. From
the curves it is possible to determine the effective
length of the section, while from the straight lines it
is possible to evaluate the quantities expressed by
Eq (19) and (20); from these in turn it is possible to
determine the two parameters of the quadripole. There are
2 figures and 3 references of which 1 is Soviet,
1 English and 1 German.

SUBMITTED: 17th April 1957

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SOV/109- - -4-3-19/38

AUTHORS: Kostiyenko A.I., Devyatkov M.N., and Lebed' A.A.

TITLE: Use of the Virtual Cathodes for the Detection at Ultra-High Frequencies (Ob ispol'zovanii virtual'nykh katodov dlya detektirovaniya na sverkhvysokikh chastotakh)

ABSTRACT: The problem was investigated experimentally. The circuit employed is shown in Fig 1; a constant potential U_1 was applied to the accelerating grid and to the first grid of the interaction gap; a potential U_2 was applied to the second grid of the interaction gap, and a potential U_0 was injected into the interaction gap. By adjusting potentials U_1 and U_2, two virtual cathodes can be formed inside the tube, as is illustrated in Fig 2. The experiments were carried out at wavelengths of 10 - 3 cm. At the 10 cm wave the UHF power was fed to the klystron by means of a cavity resonator as shown in Fig 3a. At the 3 cm wave the UHF power was fed by means of a rectangular waveguide; this is shown in Fig 3b. The measured results are shown graphically in Figs 4 - 8. Fig 4 represents the dependence of the

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SOV/109- - -4-3-19/38

Use of the Virtual Cathodes for the Detection at Ultra-High Frequencies

reflector current I_0 on the reflector voltage U_0 for $U_0 > 0$. The figure illustrates also the increase of the reflector current ΔI_0 due to the ultrahigh frequency signal. The dependence of I_0 and ΔI_0 on the potential of the accelerating grid is illustrated in Fig 8. From the above experiments it is concluded that the use of the virtual cathodes for the purpose of the detection is quite feasible. The best results are obtained when the virtual cathode effect is very small. The detection mechanism at the 3 cm wave is almost identical with that at the 10 cm wave. The authors express their gratitude to S.D. Gvozdover for valuable advice and his interest in this work. Acknowledgement is also made to M.A. Drozdova and V.G. Titov for their help in carrying

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SOV/109- - -4-3-19/38
Use of the Virtual Cathodes for the Detection at Ultrahigh
Frequencies

out the experiments.
There are 8 figures and 2 Soviet references.

ASSOCIATION: Fizicheskiy Fakul'tet Moskovskogo Gosudarstvennogo
Universiteta imeni M.V. Lomonosova
(Physics Department of   Moscow State University
imeni M.V. Lomonosov)

SUBMITTED: September 6, 1957

Card 3/3

ERGLIS, Kronid Eduardovich; STEPANENKO, Igor' Pavlovich; KOSTIYENKO, A.I.,
red.; AKHLAMOV, S.N., tekhn. red.

[Electronic amplifiers] Elektronnye usiliteli. Moskva, Gos. izd-vo
fiziko-matem. lit-ry, 1961. 487 p.   (MIRA 14:7)
(Amplifiers, Electron-tube)

SOMINSKIY, Monus Samuilovich;KOSTIYENKO, A.I., red.; YERMAKOVA, A.I., tekhn.
        red.;

    [Semiconductors] Poluprovodniki. Moskva, Gos. izd-vo fiziko-
    matem. lit-ry, 1961. 414 p.   (MIRA 15:2)
                        (Semiconductors)   (Transistors)

SANIN, Aleksey Aleksandrovich; KOSTIYENKO, A.I., red.; KRYUCHKOVA, V.N., tekhn. red.

[Electronic devices in nuclear physics] Elektronnye pribory iadernoi fiziki. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1961. 615 p.
(MIRA 14:12)

(Nuclear physics--Electronic equipment)

KHARKEVICH, Aleksandr Aleksandrovich; KOSTIYENKO, A.I., red.;
GAVRILOV, S.S., tekhn. red.

[Spectra and analysis] Spektry i analiz. Izd.4. Moskva, Gos.
izd-vo fiziko-matem. lit-ry, 1962. 236 p. (MIRA 15:6)
(Spectrum analysis)

AUTHORS: Kostiyenko, A.I., and Pirogov, Yu.A.

TITLE: Interaction between an electron beam and a higher order waveguide mode in a large planar gap

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 2, 1962, 332 – 338

TEXT: The aim of the paper is to analyze the interaction between an electron beam and an H_{11} mode in a rectangular waveguide. The bottom and top plates of the waveguide contain the grids c_1 and c_2 which are at the potential U_1 and U_2 respectively. If sufficient amount of space charge is present the d.c. potential distribution has a minimum somewhere between the grids. Accordingly the authors approximate this potential distribution by a parabola

$$u(x) = px^2 - qx + c \tag{1}$$

which means a linear variation in electric intensity. Assuming that

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Interaction between an electron ...

the diameter of the electron beam is considerably smaller than the dimensions of the waveguide the y dependence of the electric field is negligible and only the x dependence

$$E_x\big|_{y=a/2} = E_{10} \cos \frac{\pi}{b} x \tag{4}$$

is taken into account. Approximating (4) by a straight line the equation of motion for an electron is obtained as follows

$$\frac{d^2x}{dt^2} = a_o^2 x - \frac{eq}{m} + \mu \frac{eq}{m} (\zeta x - 1) \sin (\omega t + \varphi) \tag{8}$$

where e, m - electron charge and mass, φ - phase angle, $\zeta = 2/b$, $a_o^2 = 2 \frac{e}{m} p$, $\mu = 4E_{10}/\pi q$. Since $\mu \ll 1$ (valid under small signal conditions) it is convenient to write the solution of the differential equation in the following form

$$x(t) = x^{(0)}(t) + \mu x^{(1)}(t) + \mu^2 x^{(2)}(t) + \dots$$

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Interaction between the electron ...   S/109/62/007/002/017/024
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magnetic signals. There are 3 figures and 3 Soviet-bloc references.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo uni-
versiteta im. M.V. Lomonosova, Kafedra radiotekhniki
(Physics Faculty of Moscow State University im. M.V.
Lomonosov, Department of Radioengineering)

SUBMITTED: June 8, 1961

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$9,4230$

S/109/62/007/005/009/021
D266/D307

AUTHORS: Devyatkov, M.N., Kostiyenko, A.I., and Myasoyedov, Ye. Ya.

TITLE: Travelling wave tubes as UHF detectors and mixers

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 5, 1962, 838 - 843

TEXT: The purpose of the paper is to investigate experimentally the detector and mixer properties of ordinary low power travelling wave tubes in the 10 cm and 3 cm range. The input signal (and the local oscillator signal in case of mixing) is fed into the travelling wave tube and the detected signal (or i-f signal) is taken from the collector circuit. The voltages on the different electrodes are the same as in amplifier operation except that of the collector which is considerably depressed. The collector current in the absence of input signal depends very strongly on collector voltage. The collector current in the presence of signal is altered. The current difference, ΔI_k, and its ratio to input power, $\Delta I_k/P_c$, are plotted

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Travelling wave tubes as UHF ...

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against input power. For small input power ($P_c < 5\mu W$) the detector characteristics are near to quadratic. The minimum detectable signal was found to be about 10^{-10} watt which is of the same order as that obtainable by a TWT-crystal combination. In mixer operation the chosen i-f frequency was 40 Mc. The dependence of conversion gain and i-f power on input power is plotted, showing about 17 db conversion gain in low level operation. I-f power plotted against local oscillator power shows a maximum around $P_{10} \cong 50 - 70$ microwatts. The limit sensitivity of the travelling wave tube mixer was found to be worse than that of the TWT-crystal by 5 to 10 db. The bandwidth of the mixer was not determined but in each case it exceeded 10 %. Some experiments were also performed by feeding back the higher frequency to the input of the travelling wave tube. The limiting sensitivity improved in this case by approximately 3 db. There are 6 figures.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova, Kafedra radiotekhniki (Physics Faculty of Moscow State University im. M.V. Lomonosov, Department of Radio Engineering)

SUBMITTED: June 8, 1961

Card 2/2

BRANDT, Aleksandr Aleksandrovich; KOSTIYENKO, A.I., red.; PLAKSHE, L.Yu., tekhn. red.

[Study of dielectrics at superhigh frequencies] Issledovanie dielektrikov na sverkhvysokikh chastotakh. Moskva, Fizmatgiz, 1963. 403 p. (MIRA 16:5)

(Dielectrics)

BERMAN, Lev Solomonovich; KOSTIYENKO, A.I., red.; MIKHLIN, E.I.,
tekhn. red.

[Nonlinear capacitance of semiconductors] Nelineinaia po-
luprovodnikovaia emkost'. Moskva, Fizmatgiz, 1963. 85 p.
                                        (MIRA 16:8)

(Semiconductors)   (Transistors)

VARGAFTIK, **Natan** Borisovich; KOSTIYENKO, A.I., red.; KIVILIS, S.Sh., red.; SKURLATOV, V.I., red.; KRYUCHKOVA, V.N., tekhn. red.

[Manual on the thermophysical properties of gases and liquids]
Spravochnik po teplofizicheskim svoistvam gazov i zhidkostei.
Moskva, Fizmatgiz, 1963. 708 p.   (MIRA 16:12)
 (Gases--Thermodynamics)   (Liquids--Thermodynamics)

KHARKEVICH, Aleksandr Aleksandrovich; KOSTIYENKO, A.I., red.;
KRYUCHKOVA, V.N., tekhn. red.

[Control of radio interference] Bor'ba s pomekhami. Moskva,
Fizmatgiz, 1963. 274 p.   (MIRA 16:12)
(Radio—Interference)   (Information theory)

ARTSIMOVICH, Lev Andreyevich; KOSTIYENKO, A.I., red.; DRUDNO, K.F.,
   tekhn. red.

   [Controlled thermonuclear reactions] Upravliaemye termo-
   iadernye reaktsii. Izd.2., perer. Moskva, Fizmatgiz,
   1963.   496 p.   (MIRA 17:3)

STEPANENKO, Igor' Pavlovich; KAGANOV, I.L., prof., retsenzent;
     KOSTIYENKO, A.I., red.; LARIONOV, G.Ye., tekhn. red.

     [Principles of transistor theory and transistor circuits]
     Osnovy teorii tranzistorov i tranzistornykh skhem. Moskva,
     Gosenergoizdat, 1963. 375 p.   (MIRA 17:3)

ERGLIS, Kronid Eduardovich; STEPANENKO, Igor' Pavlovich;
KOSTIYENKO, A.I., red.

[Electronic amplifiers] Elektronnye usiliteli. Izd.2.,
ispr. i dop. Moskva, Nauka, 1964. 539 p.
(MIRA 17:10)

RIZKIN, Abel' Aronovich; KOSTIYENKO, A.I., red.

[Principles of the theory and design of e⁻ectronic
amplifiers] Osnovy teorii i rascheta elektronnykh usi-
litelei. Moskva, Energiia, 1965. 462 p.
                                        (MIRA 18:6)

PIKUS, Grigoriy; KOSTIYENKO, A.I., red.

[Principles of the theory of semiconductor devices]
Osnovy teorii poluprovodnikovykh priborov. Moskva,
Nauka, 1965. 448 p.   (MIRA 19:1)

DANITSKIY, Illarion Savvich; KOSTOLEVSKIY, M.M., red.; ZINCHENKO, V.S., red.izd-va; PAVLOVSKIY, A.A., tekhn. red.

[The plywood market of capitalist countries] Fanera; rynok kapitalisticheskikh stran. Moskva, Vneshtorgizdat, 1963. 202 p.   (MIRA 16:7)
          (Plywood industry)

KOSTIYEVSKIY, YAN

"Organization and results of studies of the epidemiology
of sporadic typhus fever in Poland."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists
and Infectionists, 1959.

Abstract: Experiments on cats indicated that there are two
systems of the synaptic effect of afferent impulses carried
from the visceral nerve to the investigated motoneurons.
acts faster and does —————— organized on the principle
of reciprocity. The other system is more efficient, takes a
more complicated path, activates flexon motoneurons, and
inhibits extensor motoneurons. 2 Western, 1 Czech reference.
Submitted at "16 Days of Physiology" at Kosice 30 Sep 65.

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CZECHOSLOVAKIA/RUSSIA

DUDA, P., KOSTJUK, P.G., PREOBRAZENSKY, N.N.; Institute of
Normal and Pathological Physiology, Slovak Academy of Sciences
(Ustav Normalnej a Patologickej Fyziologie SAV), Bratislava;
Physiological Institute, Ukrainian Academy of Sciences,
/Original version not given_7. KIEV.

"The Mechanism of the Inhibitory Effect of Viscero-Motor
Reflections."

Abstract: Changes of synaptic potentials of lumbar motoneurons
during frequent excitation of n. splanchnicus and the relation-
ship of synaptic processes evoked by impulses from visceral and
somatic nerves were investigated. Various impulses causing
depressions and the mechanism by which these depressions are
evoked are described. The intensity and the duration of these
depressions are discussed. Presynaptic ————— —— ——— ——